

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-68 (canceled)

69. (new) A system for conducting an experiment on biological cells, the system comprising

(a) an examination site having a surface,

(b) a mixture of at least two carriers randomly distributed on the surface, each of the carriers having a flat surface and being formed of fused glass or plastic fibers of various colors, the relative positions and colors of the fibers being interpretable as a code known to indicate information about a class of cells supported by the respective carrier, wherein each of the at least two carriers has a different code indicating a different class of cells,

(c) an imaging device configured to acquire a set of images showing the mixture, each image corresponding to a different spectral band, and

(d) an image analysis system including a computer programmed to identify a class of cells supported by one or more carriers having the same code by using the images to develop a mask for the one or more carriers and detecting one or more reporting modalities within the mask.

70. (new) The system of claim 69, wherein the one or more reporting modalities includes quantification of cells detected within the mask.

71. (new) The system of claim 69, wherein the one or more reporting modalities include emission of fluorescence within the mask.

72. (new) The system of claim 69, wherein the carriers are formed of glass fibers.

73. (new) The system of claim 69, wherein the carriers are connected to antibodies for binding antigens displayed on cells.

74. (new) The system of claim 69, wherein the carriers comprise nanocrystals.

75. (new) The system of claim 69, wherein the imaging device acquires a digital image of the carriers.

76. (new) The system of claim 69, wherein each of the at least two carriers has a flat shape.

77. (new) The system of claim 69, wherein each of the at least two carriers is at least partially transparent.

78. (new) The device of claim 69, wherein the reporting modality is an absorptive color.

79. (new) The system of claim 69, wherein the digital image is corrected for background variation.

80. (new) An array system comprising

(a) an examination site having a surface,

(b) a mixture of at least two carriers disposed on the surface, each of the carriers having a flat surface and being formed of fused glass or plastic fibers of various colors, the relative positions and colors of the fibers being interpretable as a code known to indicate information about a class of analytes supported by the respective carrier,

wherein each of the at least two carriers has a different code indicating a different class of analytes,

(c) an imaging device configured to acquire at least one image of the mixture, and

(d) an image analysis system that uses code information from the image to interpret experiments on the analytes.

81. (new) The array system of claim 80, wherein the analytes comprise biological cells.

82. (new) The array system of claim 81, wherein the cells are bound to the carriers via antibodies.

d 83. (new) The array system of claim 81, wherein the image analysis system includes a computer programmed to identify a class of cells supported by one or more carriers having the same code by using the images to develop a mask for the one or more carriers and detecting one or more reporting modalities within the mask.

84. (new) The array system of claim 81, wherein the at least two carriers are randomly distributed on the surface of the examination site.

85. (new) A system for conducting an experiment on biological cells, the system comprising


(a) an examination site having a surface,

(b) a mixture of at least two carriers randomly distributed on the surface, each of the carriers having a flat surface and being formed of fused glass or plastic fibers of various colors, the relative positions and colors of the fibers being interpretable as a code

known to indicate information about a class of cells supported by the respective carrier, wherein each of the at least two carriers has a different code indicating a different class of cells,

(c) an imaging device configured to acquire a set of images showing the mixture, each image corresponding to a different spectral band, and

(d) an image analysis system that uses code information from the image to interpret experiments on the cells.

 86. (new) The system of claim 85, wherein the image analysis system includes a computer programmed to identify a class of cells supported by one or more carriers having the same code by using the images to develop a mask for the one or more carriers and detecting one or more reporting modalities within the mask.

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